



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

tor, Mr. T. H. Wise, of Wheaton, Ills., is a boy seventeen years of age. The journal is very creditable, and will doubtless be useful to young collectors.—A. V. Leonhard has published in the Transactions of the St. Louis Acad. Science a descriptive catalogue of the minerals of Missouri and a list of the more important localities of minerals in that state.—Dieulafoy has examined the so-called "*cipolin marbles*," which occur in lenticular beds in gneiss in various parts of the world. He finds that a trace of manganese is invariably present, and argues from chemical reasons that these marbles and the surrounding gneiss are contemporaneous deposits. Geological investigations have led to the same conclusion.—*Amalgam* has been found at the Friedrichsseggen mine near Oberlahnstein. Specimens of native silver and native copper from the same locality have been found by Sandberger to contain traces of mercury.

BOTANY.¹

SELF-PLANTING OF SEEDS OF PORCUPINE GRASS.—In connection with the two notes relating to the fruit of the porcupine grass, it may not be without interest to state that while engaged in geological work in Dakota, north of the Northern Pacific R. R., we were much annoyed by the fruit of this grass. Indeed I found the only way to walk with comfort through this grass was to roll my pants above my knees and my socks down over my shoes.

I also observed, on several occasions, these seeds planted two inches deep in the soil with the awn protruding from the ground. It is plain that with the point of one of these fruits once entered below the surface of the soil the swelling and shrinking, due to varying amounts of moisture, would work the seed directly into the ground.—*F. H. King, River Falls, Wis.*

THE ADVENTITIOUS INFLORESCENCE OF *CUSCUTA GLOMERATA*.—The flowers of this dodder are in dense clusters, which at maturity are so much crowded that it is impossible to make out their mode of origin, hence they have been described as cymose, panicled or as densely clustered, with no hint or suggestion as to their adventitious origin. A study of their development the past season shows them to be strictly adventitious and, as a consequence, endogenous as to origin.

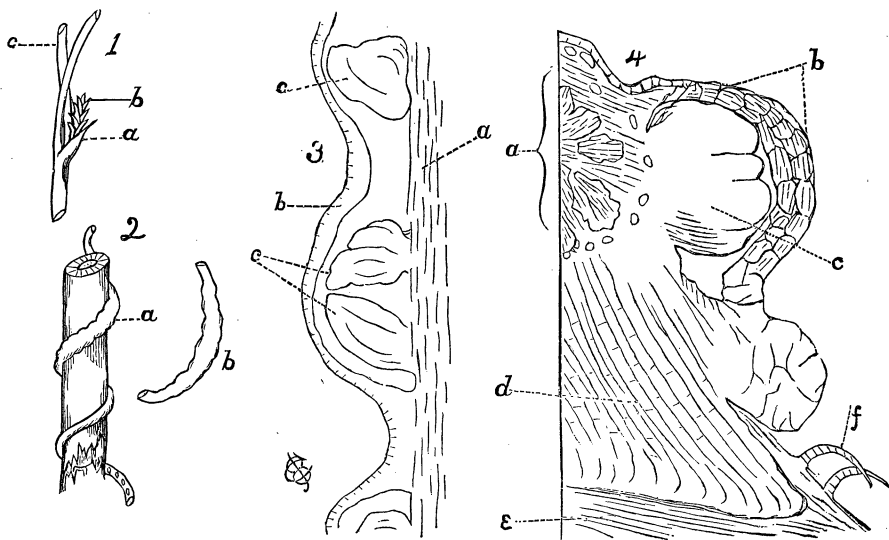
A short time before the flower clusters appear the dodder stems, which are in close contact with their hosts, begin to broaden, as shown in Fig. 2, eventually becoming slightly lobulated. If at this time a longitudinal section of the stem be made, the cause of the broadening will be found to be in the development of numerous adventitious buds from the lateral fibro-vascular bundles. The appearance of these is shown in the outline sketch, Fig. 3, which is reduced from a camera sketch. In a cross-section of the stem

¹ Edited by PROF. C. E. BESSEY, Ames, Iowa.

essentially the same condition is shown at this time (Fig. 4). In both figures the epidermis and the sub-epidermal or cortical tissues are shown to be pushed out by the developing buds.

As the buds increase in size the epidermal and cortical covering is pushed out more and more until at last it is ruptured somewhat regularly along each side, and the free portions then folded and crowded back by the mass of buds. Fragments of this covering may be seen on the top and sides of the stem in a fully developed cluster of flowers, by careful dissection.

Here and there on the stem may be found, at about the beginning of the development of the adventitious buds, small and rudimentary buds which evidently represent the normal flowering branches (Fig. 1 *b*). These grow from the axils of bracts, and



EXPLANATION OF THE FIGURES.

FIG. 1.—Portion of a stem of *Cuscuta glomerata*, natural size, bearing a bract, *a*, from whose axil there grows an abortive flowering branch, *b*, as well as an ordinary branch, *c*.

FIG. 2.—A fragment of a sunflower stem, with a dodder encircling it, the latter enlarged at *a* (shown separately at *b*) by the formation of adventitious buds (all natural size).

FIG. 3.—Outline sketch of a small portion of a longitudinal section of *b*, Fig. 2, showing at *a* the fibro-vascular bundle of the dodder stem; *b*, the epidermis and cortical tissues which have been pushed out by the adventitious buds *c c c* (magnified).

FIG. 4.—Outline sketch of half of a cross-section of the above, more highly magnified; *a*, the fibro-vascular cylinder of the stem; *b*, epidermis and cortical tissues pushed out by the adventitious bud, *c*; *d*, section of a sucker; *e*, tissue of sunflower stem; *f*, hairs of sunflower stem.

while I have not been able to make out the parts of the flowers, there can be little doubt, from their position and general struc-

ture, that they really are rudimentary flowers or flower-clusters, homologous with those of many other dodders as well as those of the morning glories.—*C. E. Bessey.*

BOTANY IN THE A. A. A. S.—The botanical papers read during the recent meeting of the American Association for the Advancement of Science, in Philadelphia, were as follows :

The affinities of *Dionæa*. By Joseph F. James.

A botanical study of the mite gall on the petiole of *Juglans nigra*. By Lillie J. Martin.

The torsion of leaves. By W. J. Beal.

The fossil flora of the globe, three papers. By Lester F. Ward.

Polarity of the leaves of *Erigeron canadense*. By W. J. Beal.

Utricularia vulgaris, with young teleostean fishes entrapped in the bladder-traps of that plant. By H. N. Moseley.

The influence of cross-fertilization upon the development of the strawberry. By Wm. R. Lazeuby.

Stomates on seeds. By Geo. Macloskie.

The adventitious inflorescence of *Cuscuta glomerata*. By C. E. Bessey.

Demonstrations of perforations in the cellular-walls of plant cells. By Louis Elsberg.

The last named paper was, by a curious ruling of the standing committee, assigned not to the section of biology where the botanists were, but to the section of microscopy where the botanists as a rule *were not*.

In addition to the foregoing there were many papers and notes presented to the Botanical Club of the association. The meetings and excursions of the club were most enjoyable and profitable, and many of the plant-lovers of the country had in these the opportunity of making the personal acquaintance of long known but not previously seen correspondents. The joint meeting of the Botanical Club and the Botanical Section of the Philadelphia Academy of Natural Sciences on the evening of September 8th was fully attended. Dr. Asa Gray presided during the formal part of the meeting, in which short addresses were made by many of the principal botanists in attendance.

The Botanical Club was a noticeable feature of the association, and the perfection and compactness of its organization called forth much favorable comment.

NEW SPECIES OF NORTH AMERICAN FUNGI.—*Exobasidium symploci*.—Receptacle lemon-yellow, subglobose and sublobate, 3–3½^{cm} in diameter; conidia hyaline cylindric, nearly straight, 15–21 × 2μ. In distorted flower buds of *Symplocos tinctoria*. Cove Springs, Fla., March, 1884.

Dermatea sabalidis.—Thin, cup-shaped, clustered or scattered, tobacco-brown, 350–450μ in diam. Asci sessile, 35 × 5μ; sporidia 2–3 seriate, oblong or clavate-oblong, yellowish, 2-nucleate, 4–6 × 1–1¼μ. On dead petioles of *Sabal serrulata*. Cove Springs, Fla., January, 1884.

Asterina subcyanea.—Perithecia hypophyllous, superficial, depressed convex, $250-350\mu$ in diam., of cellular structure, the cells subspherical, $5-7\mu$ in diam., of a deep greenish-blue, connected in a moniliform manner and extending out from the base of the perithecium on all sides so as to form a thin membranaceous border closely appressed to the surface of the leaf; ostiolum papilliform, collapsing when dry and with a broad circular opening; asci slightly narrowed at each end, sessile, $75 \times 15\mu$; sporidia biserial, oblong-clavate, uniseptate, hyaline, $20 \times 5-7\mu$. On living leaves of *Quercus laurifolia*. Cove Springs, Fla., March, 1884.

Asterina discoidea.—Perithecia hypophyllous, orbicular, slightly depressed in the center, olivaceous, thin, $\frac{1}{2}-\frac{3}{4}\text{mm}$ across, with an indistinct reticulated margin; asci obovate or globose, $30-40 \times 30-35\mu$; sporidia crowded, clavate-oblong or pyriform, uniseptate, $12-16 \times 4-5\mu$. Much resembles *Asterina intricata* E. & M., but color different, asci of a different shape and sporidia larger. On living leaves of *Quercus laurifolia*. Cove Springs, Fla., March, 1884.

Asterina lepidigena.—Perithecia black, subglobose, at length appanate, very thin and fragile, $200-300\mu$ in diam., seated on a hyaline scanty mycelium; asci ovate, 8-spored, $30 \times 15\mu$, or longer and narrower, $42 \times 12\mu$; sporidia obovate, hyaline, biseptate, about $12 \times 4\mu$. Attached to the epidermal scales on living leaves of *Andromeda ferruginea*. Cove Springs, Fla., March, 1884.

Asterina pustulata.—Perithecia imperfectly developed, flattened, $200-500\mu$ across, consisting of a central nucleus of loosely compacted, subglobose, brown cells which, around the circumference, pass into a fringe of closely packed brown, branching hyphæ and forming altogether a circular membranaceous disk ($\frac{1}{2}-\frac{3}{4}\text{mm}$) on the surface of the leaf; asci subglobose, 8-spored, 55μ in diam.; sporidia obovate, hyaline, uniseptate, $30-40 \times 10-12\mu$. On leaves of *Quercus laurifolia*. Cove Springs, Fla., March, 1884.

Ascomycetella floridana.—Hypophyllous; perithecium wanting; asci compacted in yellowish-white specks $500-600\mu$ in diameter, with a subradiate-floccose margin; asci obovate, $75 \times 18\mu$; sporidia clavate-cylindric, multiseptate, $40-45 \times 6-7\mu$. On leaves of *Quercus laurifolia*. The fungus first appears as a mere white floccose speck, barely visible to the naked eye, but soon increasing in diameter and becoming more compact and of a pale cream color. This is evidently referable to Professor Peck's genus *Ascomycetella*, but is quite distinct from his *A. quercina*. Cove Springs, Fla., winter of 1884.—J. B. Ellis, Newfield, N. J., and Dr. Geo. Martin.

BOTANICAL NOTES.—Experiments lately made by Dr. Stalker, the State veterinarian of Iowa, prove that *Crotalaria sagittalis*, the Rattle-box, is a "loco-plant." In the Missouri valley it is

greedily eaten by horses, and produces great nervous and muscular disorder, in most cases resulting in death.—J. C. Arthur's Contributions to the flora of Iowa, VI, in the Proc. Davenport Acad. Nat. Sci., Vol. IV, adds twenty-four phanerogams to the previous lists, and now for the first time enumerates the pteridophytes, thirty-four in number. Of the latter twenty-three are ferns.—The Journal of the Linnean Society for August contains a curious plate representing pollen cells and an anther of a poppy (*Papaver rhæas*) from a funeral garland from the coffin of an Egyptian princess of the twenty-first dynasty, that is about 1000 B.C. Both pollen-cells and anthers appear to be slightly larger than those of recent plants, but otherwise the resemblance is very close.—H. N. Patterson, of Oquawka, Ill., has issued a neat Check-list of North American Gamopetalæ made to agree with Gray's Synoptical Flora. It will be a convenience in the herbarium.—J. C. Arthur has observed a distinct polarity in the leaves of garden lettuce, according to a note in the *Botanical Gazette*.—Dr. F. Hauck's *Meeresalgen*, being the second volume of the new edition of Rabenhorst's Kryptogamen Flora, has reached part VIII, which contains the Phæozoösporeæ, Oösporeæ and Chlorozoösporeæ.—Luerssen's *Farnpflanzen* (Vol. III of Rabenhorst) has reached part III, devoted to a continuation of the Polypodiaceæ. The illustrations in both the foregoing are most excellent.

ENTOMOLOGY.

MODE OF OVIPOSITION OF THE COMMON LONGICORN PINE BORER (*Monohammus confusor*).—The exact mode of deposition of their eggs by the longicorn beetles is not well known, so far as we are aware. We have been fortunate enough to observe the female beetle while at work making the incision with her jaws, though we have not observed the act itself of deposition of the eggs. While examining the fir trees on the western shores of Birch island, Casco bay, Maine, on a warm sunny afternoon of August 30th, I saw a male *Monohammus confusor* standing on the bark of a living fir about nine inches in diameter, within the distance of less than two inches from a female, whose jaws were buried in the bark of the tree on the western side of the trunk which was exposed to the full rays of the sun.

On beginning to make the incision each of the large sharp strong jaws of this beetle are pushed directly into the bark; they are then apparently brought together, and the result is a slight curvilinear gash which descends obliquely in the bark. It is probable that the beetle pries up the pad thus formed, so that the freshly cut edges are exposed, and an opening is thus formed into which the egg is thrust. While watching the female at work the male dropped to the ground, and his consort, becoming alarmed, withdrew her jaws from the incomplete incision, when I seized